Using number strategies to solve equations

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We are using number strategies to solve linear equations with integers.

Exercise 1 – Finding *x*.

What to do:

1) Rewrite the equation in a way that will help you find the x that makes the equation true.
2) Clearly explain the strategy you use to solve this equation.
3) Give the value of x that makes the equation true.

e.g. Equation: $19 = x + 47$
Rewrite: $x = 19 - 47$
Strategy: $47 - 19 = 28$; $19 - 47 = -28$
Solution: $x = -28$

1)	$-45 + x = 76$	(2)	$x + 17 = -15$	(3)	$93 = x + 121$
4)	$72 - x = 99$	(5)	$63 = 46 - x$	(6)	$x - 29 = -51$
7)	$39 = 72 + x$	(8)	$x - 16 = -82$	(9)	$72 - x = -15$
10)	$22 = 44 + x$	(11)	$88 = 71 - x$	(12)	$-36 = x - 47$
13)	$-131 + x = 267$	(14)	$x - 140 = -470$	(15)	$195 - x = 295$
16)	$2300 + x = -4500$	(17)	$x - 9876 = -1234$	(18)	$80808 - x = -80808$
19)	$5555 + x = -1111$	(20)	$x - 932 = -840$	(21)	$100000 - x = 123456$
22)	$-354 + x = -127$	(23)	$x - 3750 = -4250$	(24)	$99995 - x = 100000$

Exercise 2 – Writing word problems

Select 10 of these equations and write a word problem that the equation could be used to solve.

Answers:

1) $x = 76 + 45$
$x = 121$

(2) $x = -15 - 17$
$x = -32$

(3) $x = 93 - 121$
$x = -28$

4) $x = 72 - 99$
$x = -27$

(5) $x = 46 - 63$
$x = -17$

(6) $x = -51 + 29$
$x = -22$

7) $x = 39 - 72$
$x = -33$

(8) $x = -82 + 16$
$x = -66$

(9) $x = 72 + 15$
$x = 87$

10) $x = 22 - 44$
$x = -22$

(11) $x = 71 - 88$
$x = -17$

(12) $x = -36 + 47$
$x = 11$

13) $x = 267 + 131$
$x = 398$

(14) $x = -470 + 140$
$x = -330$

(15) $x = 195 - 295$
$x = -100$

16) $x = -4500 - 2300$
$x = -6800$

(17) $x = -1234 + 9876$
$x = 8642$

(18) $x = 80808 + 80808$
$x = 161616$

19) $x = -1111 - 5555$
$x = -6666$

(20) $x = -840 + 932$
$x = 92$

(21) $x = 100000 - 123456$
$x = -23456$

22) $x = -127 + 354$
$x = 227$

(23) $x = -4250 + 3750$
$x = -500$

(24) $x = 99995 - 100000$
$x = -5$